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Journal of the Society of Arts.

FRIDAY, NOVEMBER 5, 1858.

◆

NOTICE TO MEMBERS.

The One-Hundred-and-Fifth Session of the Society will commence on Wednesday, the 17th inst. The Chair will be taken at 8 o'clock on the following Wednesday Evenings:—

1858.	November	—	—	17	24	—
,,	December	1	8	15	22	—
1859.	January	—	—	19	26	—
,,	February	2	9	16	23	—
,,	March	2	9	16	23	30
,,	April	6	13	—	27	—
,,	May	4	11	18	25	—
,,	June	—	—	—	—	29*

For the Meetings previous to Christmas, the following arrangements have been made:—

November 17.—Introductory Address on the Opening of the One-Hundred-and-Fifth Session, by the Chairman of the Council, Mr. C. WENTWORTH DILKE.

⁂ On this evening the Medals which were awarded by the Council for Papers read at the Weekly Evening Meetings during the last Session, and for articles submitted to the Society's Committees, will be distributed.

November 24.—Mr. F. JOUBERT. "On a Method of rendering Engraved Copper-Plates capable of Producing a greatly-increased Number of Impressions."

December 1.—Mr. HYDE CLARKE. "On Copper-Smelting."

December 8.—Mr. P. A. HALKETT. "On Guideway Agriculture; being a System enabling all the Operations of the Farm to be performed by Steam Power."

December 15.—Mr. E. J. REED. "On the Modifications which the Ships of the Royal Navy have undergone during the Present Century, in respect of Dimensions, Form, Means of Propulsion, and Powers of Attack and Defence."

December 22.—Dr. FORBES WATSON. "On the Growth of Cotton in India."

LITERARY AND ARTISTIC COPYRIGHT.

Formerly Belgians enjoyed the unenviable notoriety of being amongst the greatest freebooters of whom *alien* authors and artists had to complain. The piracy of foreign literary and artistic productions was then considered to be a perfectly legitimate branch of Belgian industry on the part of those who were interested in upholding so manifest an injustice. Happily the good sense and honesty of the Belgian nation at length prevailed, and in 1852 the Government commenced the termination of a state of things so disgraceful to the country, by entering into international treaties with foreign States for the mutual protection of Copyright works.

This noble reform so recently, yet happily commenced, has been further promoted by M. CHARLES FAIDER, formerly Minister of Justice, and a most distinguished advocate, together with a number of other Belgian gentlemen of high position and influence. These parties, actuated by motives which do them eternal honour, proposed and succeeded in forming a Congress at Brussels of distinguished men of all countries interested in the production of original literary and artistic works. A programme* of the subjects for discussion was issued, and persons and societies connected with Literature and Art were invited to assist at the meeting of the Congress if possible, and, if not, to state their views by letter to the secretary upon the subjects proposed for discussion.

The Congress was opened on the 27th September, under the presidence of M. Charles Faider. Upwards of 500 letters were received from private individuals and societies, expressing their approval of the objects of the Congress. About 250 persons attended at the meeting of the Congress, and took part in the proceedings. Germany, England, Belgium, Denmark, Spain, the United States, France, Italy, the Low Countries, Portugal, Russia, Sweden and Norway, and Switzerland, were all represented.

The members of the Congress were then divided into five committees, for the purpose of considering and debating the several subjects for their decision. All these committees, except the second, terminated their deliberations on the 27th Sept. Those of the second committee extended over all the four days during which the Congress continued, that is, to the 30th.

Each committee having made its report to the general meeting of the Congress, such reports were then read and discussed.

His Majesty the King of the Belgians and the Royal Princes took great interest in the objects of the Congress, honouring the meetings with their presence during the debates, and subsequently receiving the members at the palace. The following are the

"RESOLUTIONS PASSED BY THE CONGRESS.

I. *Questions relating to an international recognition of Literary and Artistic Property.*

1. The Congress considers that the principle of an international recognition of property in works of literature and art, in favour of their authors, ought to take a place in the legislation of all civilised nations.

2. This principle ought to be admitted from country to country, even in the absence of reciprocity.

3. Foreign authors ought to be placed upon exactly the same footing as native authors.

4. There is no reason for requiring foreign authors to conform to particular formalities in order to be qualified to claim the right of property. In order to obtain that right, it ought to be sufficient that they should have complied with the formalities required by the law of the country where the original publication first appeared.

5. It is desirable that all countries should adopt, for property in works of literature and art, a legislation resting upon a uniform basis.

II. *Questions relating to property in works of Literature and Art in general.*

1. Authors of works of literature and art ought to enjoy, during their whole life, the exclusive right of publishing and reproducing their works, of selling them, of causing them to be sold or distributing them, and of giving up altogether or partially their property in them, or their right of reproduction.

The survivor of husband and wife† ought to retain

*** The Annual General Meeting: the Chair will be taken at 4 o'clock. No Visitors are admitted to this Meeting.**

* See present Volume of the Journal, p. 578.

† By the law of France the wife of an author, in the event of her surviving her husband, is entitled to the Copyright in his works during her life.—ED. *J. S. A.*

the same rights equally for life, and the personal representatives of, or other the persons entitled through the author, ought to enjoy them for fifty years, commencing either from the death of the author, or from the cessation of the widow's rights as the case may be.

2. In the applicability of these rights, there is no ground for drawing any distinction between different categories of works of literature and art, literary or musical compositions, or productions of arts of design.

There is no distinction to make between works appearing under a false name, and works published under the true name of the author.

Neither should the duration of rights be made to depend upon the condition of the persons entitled, whether children, personal representatives, or assignees.

3. The right of the first editor over an anonymous work ought to endure for 30 years, commencing from publication.

If the author makes himself known before the expiration of the term fixed by law, he ought to have the same rights which would have belonged to him if the work had originally appeared under his name.

4. With reference to posthumous works, if the rights of the author's widow, and of his personal representatives, or the persons entitled are not extinguished, the posthumous work ought to belong to them during a period equal to that which is allowed them by law.

If these rights are extinguished, the owner of a posthumous work ought to have an exclusive right to endure for 30 years, commencing from publication.

5. The exclusive right of the author should be guaranteed for publishing public lectures, sermons, and other discourses delivered in public, which cannot be published separately nor in the body of a work without the consent of the authors or of their representatives. With regard to addresses by advocates in Courts of Law, and speeches made in political assemblies, this consent ought only to be necessary for their publication in a collection of the speaker's works.

6. The right of the author over the reproduction of his original work, ought to carry with it the right of translation, subject to the following restriction:—The author should have for ten years, commencing from publication of the translation, the exclusive right of translating, or causing to be translated, his work into all languages, on condition of exercising this right before the expiration of the third year from the publication of the original work. If, at the expiration of the third year, the author has not availed himself of this right, everybody should have the power of exercising it concurrently, except in the country where the work originally appeared. After the expiration of the 10 years, although the author may have availed himself of his right, everybody should have the power of translating the original work, and of selling it in all countries except in that where it orginally appeared.

7. There is no reason for subjecting authors of works of literature or of art to certain formalities according to their right. If some particular formalities may be of use, whether as a measure of administration and of regularity, or whether as a means of establishing and proving the right of property; if it is expedient to ensure the observance of these formalities by any sort of sanction, their non-observance cannot and ought not to involve a forfeiture of the right. It is important to render these formalities as simple as possible. *Registration*, and the depositing of one or more copies of the work in the hands of a public functionary appointed for that purpose, seem to be the most advantageous method.

III. *Questions relating to the Representation and Execution of Dramatic and Musical Works.*

1. The right of *representation* of dramatic or musical works ought to be independent of the exclusive right of reproduction.

2. There is no reason for drawing any distinction between the two rights with regard to the duration of their enjoyment.

3. The right of property in musical compositions ought to be a barrier to the execution in public of every part of the musical work, without the consent of the composer, whatever the importance of the work may be, and whatever the mode of execution. But, where no pecuniary advantage is joined with interest in Art, the composer's right ought not to be asserted for the purpose of throwing impediments in the way of concerts, whether private or public.

4. The right of property in musical compositions ought to include the right of composing arrangements founded upon the subjects (*motifs*) of the original work.

IV. *Questions relating to Works of Design.*

1. The author of a drawing, a picture, a work of sculpture, or architecture, or of any other artistic work, ought to have the right of reproducing it, or of authorising its reproduction, by a similar or distinct method in art, and upon either an analogous or a different scale.

2. The unauthorised reproducer ought to be liable to the penalties of piracy when there is usurpation of name, without prejudice to the penalties incurred by a forger, if the piracy amounts to an *imitation* of signature.

3. The right of property in original designs ought also to embrace the applications which may be made of those designs for industrial purposes.

4. Particular formalities ought not to be required for Works of Art any more than for literary productions, as an absolute condition for acquiring and preserving property in them. Nevertheless, as in one case so in the other, some formalities may be desirable, as a measure of regularity, and for facilitating the proper exercise of the right. The works might be *registered*, and the certificate of registration, which would be delivered to the artist, would permit him to prove the authenticity of the work, whether it be in his own possession or in that of his grantees, and, if it should so happen, the authenticity of copies also.

V. *Questions upon the Economy of the Subject.*

The Congress desires:—

1. The abolition of duties on books and Works of Art, or, at least, the reduction of those duties to the most moderate rate, and their simplification so far as the tariff establishes different duties by category for literary productions.

2. The power of re-entry free of duty for works sent abroad on commission and not sold.

3. The diminution of the postal taxes to the utmost possible extent on all the routes, and the increase of facilities for the despatch and circulation of printed works, of engravings, and other articles capable of being despatched by post.

4. The assimilation of proofs with corrections to the final impressions, in the countries where the regulations establish a difference.

5. The suppression of all the formalities which shackle the book-trade."

These resolutions, emanating as they do from the distinguished body of men of all nations who passed them, form a new era in the history of legislation affecting property in original works of literature and of art. However any one acquainted with the subject may differ from the Congress upon some of the minor points included in the resolutions, it is surely impossible for any one to differ from those involving the great point of international protection for copyright works.

Authors of literary and artistic productions are deeply indebted to the Congress for their important labours, and authors will best repay that debt by exerting themselves to the utmost to promote and carry out the chief reforms suggested by the Congress.

BRITISH ASSOCIATION, LEEDS, 1858.

On the Measurement of Water by Weir Boards.

The following report, by James Thomson, A.M., C.E., Professor of Civil Engineering, Queen's College, Belfast, on the progress of experiments on this subject, was read before the Mechanical Section:—

The experiments proposed to be comprehended in the investigations to which the present interim report of progress relates, have for their object to determine the suitablenes of triangular (or V-shaped) notches in vertical plates for the gauging of running water, instead of the rectangular notches in ordinary use. The ordinary rectangular notches, accurately experimented on as they have been, at great cost and with high scientific skill in various countries, with the view of determining the necessary formulas and coefficients for their application in practice, are, for many purposes, suitable and convenient. They are, however, but ill adapted for the measurement of very variable quantities of water, such as commonly occur to the engineer to be gauged in rivers and streams. If the rectangular notch is to be made wide enough to allow the water to pass in flood times, it must be so wide that for long periods, in moderately dry weather, the water flows so shallow over its crest, that its indications cannot be relied on. To remove in some degree this objection, gauges for rivers or streams are sometimes formed, in the best engineering practice, with a small rectangular notch cut down below the general level of the crest of a large rectangular notch. If, now, instead of one depression being made, for dry weather use, in a crest wide enough for use in floods, we conceive of a large number of depressions, extending so as to give to the crest the appearance of a set of steps or stairs, and if we conceive the number of such steps to become infinitely great, we are led at once to the conception of the triangular instead of the rectangular notch. The principle of the triangular notch being thus arrived at, it becomes evident that there is no necessity for having one side of the notch vertical, and the other slanting; but that, as may, in many cases, prove more convenient, both sides may be made slanting, and their slopes may be alike. It is then to be observed that, by the use of the triangular notch, with proper formulas and coefficients, derivable by due union of theory and experiments, quantities of running water from the smallest to the greatest, may be accurately gauged by their flow through the same notch. The reason of this is obvious from considering that, in the triangular notch, when the quantity flowing is very small, the flow is confined to a small space admitting of accurate measurement; and that the space for the flow of the water increases as the quantity to be measured increases, but still continues such as to admit of accurate measurement.

Farther, the ordinary rectangular notch, when applied for the gauging of rivers, is subject to a serious objection from the difficulty or impossibility of properly taking into account the influence of the bottom of the river on the flow of the water to the notch. If it were practicable to dam up the river so deep that the water would flow through the notch as if coming from a reservoir of still water, the difficulty would not arise. This, however, can seldom be done in practice; and, although the bottom of the river may be so far below the crest as to produce but little effect on the flow of the water when the quantity flowing is small, yet when the quantity becomes great, the "velocity of approach" comes to have a very material influence on the flow of the water, but an influence which it is usually difficult, if not impracticable, to ascertain with satisfactory accuracy. In the notches now proposed, of triangular form, the influence of the bottom may be rendered definite, and such as to affect alike (or, at least, by some law that may be readily determined by experiment) the flow of the water when very small, or when very great, in the same notch. The method by which I propose that this may be effected, consists in carrying out a floor, starting exactly from the vertex of the notch, and extending both upstream and laterally, so as to form a bottom to the channel of approach, which will both be smooth and will serve as the lower bounding surface of a passage of approach, unchanging in form, while increasing in magnitude at the places, at least, which are adjacent to the vertex of the notch. The floor may either be perfectly level, or may consist of two planes, whose intersection would start from the vertex of the notch, and, as seen in plan, would pass up stream perpendicularly to the direction of the weir board; the two planes slanting upwards from their intersection more gently than the sides of the notch. The level floor, although theoretically not quite so perfect as the floor of two planes, would probably, for most practical purposes, prove the more convenient arrangement.

With reference to the use of the floor, it may be said, in short, that by a due arrangement of the notch and the floor, a discharge orifice and channel of approach may be produced, of which (the upper surface of the water being considered as the top of the channel and orifice,) the form will be unchanged, or but little changed with variations of the quantity flowing; very much less, certainly, than is the case with rectangular notches. The laws regulating the quantities of water flowing in such orifices as have now been described, come naturally next to be considered. Without, however, in the present interim report, attempting to enter on a detailed discussion of theoretical considerations on this subject, I shall here merely advert briefly to the principal results und methods of reasoning.

By theory I have been led to anticipate that the quantity flowing in a given notch should be proportional, or very nearly so, to the $\frac{5}{2}$ power of the lineal dimensions of the cross section of the issuing jet, or to the $\frac{5}{2}$ power of the head of water over the vertex of the notch. This head is to be understood, in the case of water flowing from a still reservoir, as being measured vertically from the level water surface in the reservoir, down to the vertex of the notch; or in the case of water flowing to the notch with a considerable velocity of approach over a floor arranged as above described, the head is to be considered as measured vertically from the water surface, where the motion is nearly stopped by the weir board at a place near the board, but as far as may be found practicable, from the centre of the notch. The law here enunciated, to the effect that the quantity flowing should be proportional to the $\frac{5}{2}$ power of the head, I consider should hold good rigidly in reference to water flowing by a triangular notch in a thin vertical plate, from a large and deep reservoir of still water, if the water were a perfect fluid, free from viscidity and friction, and from capillary attraction at its surface, and from any other slight disturbing causes that may have minute influences on the flow, the flow being supposed to be that due simply to gravitation resisted by the inertia of the fluid. The like may be said of water flowing from triangular notches with shallow channels of approach, having floors as described above, when due attention is given to make the passages of approach so as really to remain unchanged in form for a sufficient distance from the notch, while increasing in magnitude as the flow increases (such being supposed according to my theory to be possible), and if due attention be paid to the measuring the heads in all cases in positions similarly situated with reference to the varying dimensions of the issuing streams.

In illustration of these statements, or suppositions, I would merely say, that, if two triangular notches, similar in form, have water flowing in them at different depths, but with similar passages of approach, the cross section of the two jets at the notches may be similarly divided into the same number of elements of area; and that the areas of the corresponding elements will be proportional to the squares of the lineal dimensions of the cross sections; or, as from various considerations, may readily be assumed, proportional to the squares of the heads; also the velocities of the water in the corresponding elements may be taken as proportional to the square roots of the lineal dimensions, or to the square roots of the heads. From these considerations, supported by numerous others, it appears that the quantities flowing should be proportional to the products of the squares of the heads into their square roots, or to the $\frac{5}{2}$ powers as already stated.

The friction of the fluid on the solid bounding surfaces of the passages of approach, where the water moves rapidly adjacent to the notch, may readily be assumed from all previous experience in similar subjects, not to have a very important influence even on the absolute amount of the flow of the water; and if we assume (as is known to be nearly the case for high velocities, such as occur in notches used for practical purposes, unless unusually small) that the tangential force of friction of the fluid per unit of area of surface flowed along, is proportional to the square of the velocity of flow, it follows by theory that the friction, though slightly influencing the absolute amount of the flow, will not, according to that assumption, at all interfere with its proportionality to the $\frac{5}{2}$ power of the head. And this condition will very nearly hold good if the assumption is very nearly correct.

How closely the theory thus briefly sketched may be found to agree with the actual flow of water, will be a subject for experimental investigation; and whatever may be the result in this respect, the main object must be to obtain for a moderate number of triangular notches of different forms, and both with and without floors at the passage of approach, the necessary co-efficients for the various forms of notches and approaches selected, and for various depths in any one of them, so as to allow of water being gauged for practical purposes when in future convenient, by means of similarly formed notches and approaches. The utility of the proposed system of gauging, it is to be particularly observed, will not depend on a perfectly close agreement of the theory described with the experiments; because a table of experimental co-efficients for various depths, or an empirical formula slightly modified from the theoretical one, will serve all purposes.

To one evident simplification in the proposed system of gauging, as compared with that by rectangular notches, I would here advert, namely, that in the proposed system the quantity flowing comes to be a function of only one variable, namely, the measured head of water, while in the rectangular notches it is a function of at least two variables, namely, the head of water and the horizontal width of the notch, and is commonly, also, a function of a third variable very difficult to be taken into account, namely, the depth from the crest of the notch down to the bottom of the channel of approach; which depth must vary in its influence with all the varying ratios between it and the other two quantities of which the flow is a function.

The proposed system of gauging also gives facilities for taking another element into account, which often arises in practice, namely, the influence of back water on the flow of the water in the gauge, when, as frequently occurs in rivers, it is found impracticable to dam the river up sufficiently to give it a clear overfall free from the back or tail water For any given ratio of the height of the tail water above the vertex of the notch, I would anticipate that the quantities flowing would still be, approximately at least, proportional to the $\frac{5}{2}$ power of the head as before, and a set of co-efficients would have to be determined experimentally for different ratios of the height of the head water to the height of the tail water above the vertex of the notch.

With the aid of the grant placed at my disposal by the Association at last year's meeting, for the purpose of these researches, I have got an experimental apparatus constructed and fitted up at a place a few miles distant from Belfast, in Carr's Glen, on the grounds of Mr. Neeson, who has kindly afforded me all the necessary facilities regarding the water supply and the site for the experiments, and I have got some preliminary experiments made on a right-angled notch in a vertical plane surface, the sides of the notch making angles of 45° with the horizon, and the flow being from a deep and wide pool of quiet water, and the water thus approaching the notch uninfluenced by any floor or bottom. The principal set of experiments as yet made were on quantities of water varying from about two to ten cubic feet per minute, and the depths or heads of the water varied from two to four inches in the right-angled notch.

From these experiments I derive the formula $Q=0·317\ H^{\frac{5}{2}}$, where Q is the quantity of water in cubic feet per minute, and H the head as measured vertically in inches from the still water level of the pool down to the vertex of the notch. This formula is submitted at present temporarily, as being accurate enough for use for ordinary practical purposes, for the measurement of water by notches similar to the one experimented on, and for quantities of water limited to nearly the same range as those in the experiments; but as being, of course, subject to amendment by more perfect experiments extending through a wider range of quantities of water.

Out of the grant of £10 from the Association for these experiments, the amount for which I have hitherto had to apply to the treasurer as having been expended in them is £8 0s. 4d., which leaves a balance remaining of £1 19s. 8d.

It will be readily observed that the experimental investigations indicated in the foregoing report as desirable, are such as would require for their completion and extension to large flows of water a great expenditure both of time and money, like as has already been the case with researches on the flow of water in rectangular notches. All that I can myself, for the present, propose to attempt is to open up the subject with experiments on moderately small flows of water; and with this view I would be glad to be aided by a further grant from the Association in continuing experiments of the kinds already undertaken.

NOTES FROM THE GOLD COAST.

By M. C. Cooke.

It would be a task scarce worthy the pains, to string together the following notes and memoranda, culled from a private correspondence, did they relate to almost any other part of the world than Western Africa. But so little reliable information comes from that quarter as to make the gossip of a letter-writer interesting to the majority of readers. Under this impression, whether true or false, I have culled the following remarks from a series of letters received during the last few years from a correspondent at Cape Coast, in the hope that they might prove of interest to your readers.

"The West African mails leaving on the 24th of each month, call on the 31st at Madeira, on the 2nd at Teneriffe, on the 6th at Goree, on the 7th at Bathurst (on the Gambia), on the 10th at Sierra Leone, on the 13th at Mowrovia, arriving on the 17th at Cape Coast Castle."

The party of eleven, of which my correspondent was one, having arrived at their destination, he confirms the following account of the general characteristics of the coast:—

"The more western portion of the Gold Coast has an undulating surface, with a bold and rocky front to seaward. But the greater part of the territory consists of level, fertile, and open plains, covered in some places with tall grass, and in others with lofty forest trees. The shores are here flat and sandy, and the whole range of coast is entirely destitute of harbours."—Hughes.

This sketch is tolerably correct. There are plenty of moderate-sized hills to the rear of us, and they are all covered with "bush" or low trees quite down to the town. The country is mountainous far to the eastward of us, and there are no bays of any magnitude on this part of the coast."

Adverting to the climate of this locality, so fearfully fatal to Europeans within twelve months after his arrival, the following information confirms its right to the title of the "white man's grave."

"But as to temperature, your dog-days would in comparison be quite cool and refreshing. There is not one European now resident in the town. The last, a young Scotch trader, died a day or two ago. Of the eleven who formed our party to the coast last year, seven have died, three have gone back very ill, and *one* remains."

"Our winter season commences in May, when the temperature falls to about 80° or 82°, with 'muggy,' rainy weather. It is the most unhealthy period, and is disliked by the natives, who are sensible of even *one* degree below the average warmth. Yet it is more congenial to European feelings, and as such one is pleased to exchange for it this present state of continual perspiration."

At length the rainy season arrives, and as it passes comes the consolation "we have passed through the worst part of the rainy season, and now experience alternations of fine weather and drizzling showers, and mists. I often think of the golden harvests now waving over the fair fields of England, and the interest of gathering in the successive crops of autumn, while here it is wearisome; there is nothing to mark the course of seasons except rain and dry; 'tis the same all the year round. This is a terrible place for destroying all polished metals. Razors, &c., require constant care. Put anything away for a day or two, whether of this kind or of clothing, and it may be irrecoverably injured by damp. I have just written this letter with a bad iron pen, and as to quills, you can't keep a penknife in order to mend them, owing to the damp, which, together with ants, moths, and cockroaches, makes one cry out 'persecution' many a time and oft."

Another communication, despatched in November, describes another change; it is now the "dry season," and "while, at this moment," it states "you are enveloped in a raw, cold, foggy atmosphere, scarce seeing the sun for days together, or shivering amid frost and snow, here we are under a cloudless sky, of intense blue and a burning radiance. What would we give to exchange an African sunbeam for a snowball, or a few fresh-gathered icicles, luxuries for which you might have whole cargoes of the finest tropical fruits, and our barterer would esteem himself the winner of a prize. However, as it is, we must be content with such things as we have. Our pines at three half-pence; cocoa nuts, full of milk, clear as crystal (and the pulp a beautiful jelly, taken out with a spoon), at one penny each. Green oranges tolerably cheap. I have just seen a bunch of oranges, about twenty in number, as closely set as a bunch of grapes. It is even here considered a wonderful production. On the whole, however, things are dearer here than in England, and heavy freights render importations very expensive. The other day I gave sixpence for a few common lucifers, which, at home, you would get for a farthing.

"With this month (November) began our summer, and its height will be in December, so that during the day it is imprudent to go out at all if it can be avoided, *i.e.*, between 6.30 a.m. and 6 p.m., and then you have barely an hour before it is quite dark, moonlight of course excepted."

Another letter in that and also in the succeeding year, informs me that there had been no Harmattan, and that as the dry season drew towards its close, the natives were complaining that the "time was out of joint;" but that "tornados were daily hoped for in order to bring rain, which was much needed." Having, however, quoted enough having reference to the climate, let us turn to the people, resident and native.

"The native girls wear a 'kankey,' or artificial hump, on their backs (and nothing else) as soon as they can walk, in order to learn betimes to carry their juniors, who ride astride on the said projections. The actual usefulness of them consist in enabling the mothers to work with their infants in this way on their backs, while in England they excuse themselves from work on the plea of an infant in arms."

A circumstance is afterwards narrated in which the native population appear in less flattering colours. It occurred at a short distance from the narrator, and came somewhat officially under his notice. "A man died, and the natives inquired of the dead, 'Who killed him.' The body was carried round for the ordeal, and 'knocked' at a young man as it passed him. The savages immediately fell upon the accused with cutlasses, then left him awhile, burning and writhing in the sun, shortly to return and cut off his head."

Let us hope that such occurrences as these are few and far between, and seek relief in the doings at the garrison. "Christmas eve was most uproarious here, for exactly at twelve all the troops began firing their muskets as hard as they could through the loopholes all around the fort, making night hideous and sleep impossible. Next day they had a feast in the afternoon; moonlight soon followed, when the drums struck up for a regular dance; and where, think you, was all this capering of pas-seuls, waltzes, &c., but over the grave of poor L. E. L. and her husband—twelve flat red tiles marking the one, yellowish London bricks the other.

"But the banquet of the year for the troops is given on the Queen's birthday. A large tough piece of roast beef was the marvel of the last anniversary, with some waxy old potatoes and a dish of radishes—actually live, red radishes, and everybody was ready to jump up and knock every other body down in order to grasp and 'crunch' them. You may well congratulate yourselves on the nice things coming in with the season, while here they are all out of season all the year round—no rhubarb and sea-kale and grass; no gooseberries and currants; no new potatoes, peas, or beans; no strawberries and cherries; no apples and pears. No, nothing of the sort. But here they have fish-soup, made of dry unsalted fish, by way of a luxury; also snail-soup, with land-crabs in it. And beyond Ashantee the food consists of plantains and snails, 300 or 400 dried on a string for a dollar."

Being interested in natural history, I have at different times sent out queries relating to objects of interest believed to be known in that part of the coast. To these queries the replies have been such as are detailed below. There is no little difficulty in procuring information or specimens, as those replies will shew. And, however well-intentioned a person located on the coast may be to render service, there is evidently something even beyond that requisite, and intelligent explorers seldom venture into the interior.

"No one here takes any interest in natural history. A 'bumbafoo,' or huntsman, goes out with his gun, and brings home birds and beasts, but as to telling you anything of their character or habits, it is out of the question.

"If I attempt any inquiry, ten to one I get answers flatly contradicting each other; as yesterday, for instance, one gentleman of long experience affirming that there were no snipes on the coast, and another, of short experience, declaring he had shot them often in the neighbourhood.

"The fact is that it is as difficult to get suitable jars or bottles with corks for specimens as to get the specimens themselves, and, in some cases, more so. Suppose, for instance, I want to send such a thing as a land-crab. A jar wide enough for its reception at the mouth, is probably a vast deal too large and too heavy to be used for the purpose, and, next, how to find a cork tight enough. No shops here for such things, and probably the original stoppers are so injured as to be useless; so that the exterior is to be as much prized on such occasions as the interior curiosities.

"I wish I could send you a large shark, which the natives are triumphantly hauling up the beach within a few yards of me. Lately I lost a very kind friend and a principal merchant at Cape Coast. A few weeks since he left the shore in a canoe to go on board the steamer anchored in the roadstead. It was upset on the surf, and, in a moment, himself and a native lady and a servant girl were devoured by these voracious monsters. They will actually jump up out of the water trying to catch men who may be suspended over a ship's side painting or cleaning the vessel.

"Savage hyænas (pattakoos they call them) prowl and growl on a low ledge of rocks between the castle wall and the ever-thundering surf every night, to see what they can find, and their horrible footprints are visible enough on the sand every morning. A few weeks ago one of these wild beasts carried off a little girl in a neighbouring town as she was incautiously venturing by herself across its path. They certainly make all kinds of strange noises, imitating many voices that are in the world, whether pigs, sheep, or fowls, in order to decoy them within their voracious clutches. We hear of some large ourang-outangs having been lately seen a short distance from the town, and people now go in that direction with a sharp look out, and never alone.

"A red flamingo was brought here from Ashantee some years ago, but I cannot find any person who has seen the bird as a native. At this moment I observe the flight of seven pelicans. The marabout stork is never heard of here. Senegal and the Gambia are its localities, and you may get the tail-feathers sometimes for a dollar, sometimes for ten or twelve, or not at any price. The merchant's general charge is 24s. per ounce. Wild ducks are sometimes visible in the air; Muscovy ducks waddling on the ground; common domestic ducks are now in the larder, but very lean indeed. There are plenty of wrangling, quarreling, spiteful, pugnacious, love-birds. Gulls seen occasionally. The secretary bird not known here. There are plenty of the crown bird or crowned crane on the Coast, but not on this part of it. Locusts, not the Egyptian, are sometimes here in clouds, eating up everything.

"You will be glad to hear that an important desideratum is about to be supplied, in a work by Mr. Louis Fraser, naturalist to the last Niger expedition, on the Birds of Western Africa, with coloured plates. It is advertised in a Sierra Leone paper.

"The ordeal bark is, I believe, from a tree in the interior, and is often administered as the test of guilt or innocence, but it is easily so prepared as to act either way, for or against the accused; retained if guilty, omitted if innocent. Various seeds and small cowries are cut into uniform shapes, to be worn like beads.

"The fruit called here a plum,* in shape and colour resembles a damson, but the pulp is more like tasteless pith than anything else. I have also heard of a peach here,† but it is nothing like our own, being merely a thin skin over a large stone."

From this locality I have received specimens of *Essowwee* (or teeth cleaner), a bunch of fibre of a coarse description, used there for that purpose and chew-sticks, which have a like application; a rough fibre, called *Essou*, obtained from a creeping plant, and used for personal washing instead of sponge; *Broodewah* or the fibre of the plantain, used for the same purpose; Pine apple fibre, used by the natives for making their fishing nets; plait for hats, made from the date palm; Cola nuts (fruit of *Sterculia acuminata*), ground nuts (*Arachis hypogea*), these are taken from the shell, parched, and eaten; Tiger nuts (the small tubers of *Cyperus esculentus*), "these are chewed, not swallowed. When pounded with water, about a cupful of nuts to a cup and a-half of water, strained, simmered, and cooled down, the result is a nice sweet kind of solid creamy substance;" *Lobutze* or physic nut, a species of Jatropha; Canna seed or Indian shot, and other seeds; palm nut kernels, gum copal, cotton, together with landcrabs, scorpions, birds, insects, &c., of no general interest. Without doubt there are many products of the Coast which would be commercially valuable, but no energy or skill on the part of the natives to make the most of their natural advantages. My correspondent writes,—

"There is plenty of field here for trade; the riches of nature are in abundance, without art to get them. Palm oil, gold-dust, ivory, pepper, &c., but the climate is *per contra.*

"The principal export trade here is gold dust; they send about 20,000 ounces annually to England, and formerly much more. The palm oil trade is more to leeward, and ivory to the west or windward.

"The export of dust last year was £32,303 to England, £200 to America, and £600 to other places. About 140 to 150 tons of ivory are annually sent from the coast. About £40,000 in value of palm oil to England, £20,000 to America, and £20,000 to other places. A small portion of palm oil is shipped from Cape Coast, but by much the greater is sent from the most easterly parts of the coast. These are several other exports from the gold coast, amounting in all to £140,000 or £150,000 annual value.

"Liberated Africans have a remarkably keen eye to the native dust. So much so that before long I think the traders of that class will drive the white men out of the field. At this place, a few years ago, there were forty European merchants, and now not *one.* There are only two or three white agents and clerks for African houses. The competition has been ruinous to the mercantile speculators.

Commerce and the condition of the place generally are, as they say, looking down. Not even a "bumbafoo" to be heard of, all owing to customs' dues burdening trade here, while our Dutch neighbours, close at hand, up and down, are quite free."

Trinity School-house, Lambeth.

INTERNATIONAL DECIMAL ASSOCIATION.

At a meeting of the council of this association held on Thursday, the 28th October, the following report on the meeting of the National Association for the Promotion of Social Science, held in Liverpool, was presented by James Yates, Esq., vice-president, and adopted:—

"The late meeting at Liverpool was attended by the Earl of Shaftesbury and Mr. James Yates, two of the vice-presidents of the International Association; by Charles Paget, M.P., Edwin Chadwick, C.B., William Fairbairn, F.R.S., Dr. Farr and Dr. Hodgkin, members of the council; and Dr. Lee, T. T. Barnard, Esq., M.P., Professor Hennessy, Dr. Hine, Mr. Thomas Michell, H. G. Bohn, Esq., Mr., Fitch, Mr. Ashton Yates, Professor Traill of Edinburgh, and others. In consequence of the great number of memoirs presented to the fifth department, the general secretary, G. W. Hastings, Esq., proposed that those relating to decimal measures, weights, and coins, should be referred to a special section. This arrangement was attended with great advantages. The subject occupied the entire morning of Friday, October 15th, and one of the most spacious and commodious apartments in St. George's Hall was appropriated to the section. Lord Brougham, at whose suggestion the introduction of this topic had been resolved upon, kindly consented to take the chair, and the audience was numerous and attentive. At the commencement of the business Mr. James Yates produced letters from Viscount Ebrington, M.P., J. B. Smith, Esq., M.P., Professor L.

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* Malpighia saccharina.

† Sarcocephalus esculentus.

Levi, the Dean of Hereford, Mr. H. N. Sealy, formerly of Liverpool, M. Michel Chevalier, of Paris, M. Nordling, of Paris, M. Lamansky, secretary to the Geographical and Statistical Society of St. Petersburg, the Rev. Eugene Popov, Chaplain to the Russian embassy, M. Delavaleye, of Brussels, and other gentlemen, apologising for their absence, and expressing great interest in the plan of the International Association. Seven memoirs were read, as follows:

"Wm. Brown, Esq., M.P. for South Lancashire, showed the great trouble, inconvenience, and loss of time produced by the established system of money, observing that, if a decimal coinage were substituted for it, compound arithmetic would be superseded, and all calculations of accounts exceedingly simplified.

"Mr. Samuel Brown, Vice-President of the Institute of Actuaries, gave an account of the origin, plans, and objects of the International Association, a task for which he was singularly qualified, from having been one of its original founders, and uniformly a member of its council.

"The Rev. Alfred Barrett, M.A., North Cheam, Surrey, explained the advantages of the metrical system of measures, weights, and coins, in reference to education, and stated, as the result of his own observation, that the adoption of this system in the British islands would be a saving of time in the instruction of boys, amounting certainly to more than a year, perhaps almost two years.

"Mr. James Yates enumerated the points which seem to require attention, in order to arrive at a good system of decimal coinage, viz., the alloy, the seignorage, the remedy, the standard of value, the unit, the denominations, the number of decimal places, the highest and lowest coins, the relation to weights, the international principle, and Mr. Sealy's proposal of an international bank. He stated various facts in regard to each of these topics, and illustrated their application in trying the merits of different schemes.

"Mr. Tefft, Art Commissioner from Rhode Island, United States, having noticed the obstacles to commerce, and the perplexities to travellers, produced by a variety of monetary systems, proposed that a gold coin, equal to the new five-franc piece now current in France, should be the unit, and showed how, by slight modifications, the coinages of France and England and the United States, might meet upon this basis. He recommended that the coinage should be in strict unison with the weights and measures of the metrical system, and that the copper coins should be identical in weight and value with those of France.

"The Rev. C. H. Bromby, Principal of Cheltenham College, recommended the franc and centime system of coinage, with a gold coin of 100 francs in value, and entered into calculations to show the advantages of the system.

"Mr. Theodore Rathbone contended that a decimal system of measures, weights, and moneys might easily be adopted if a familiar quantity were taken as a standard, such as the pound weight, the yard, and the penny, and if these were adjusted to similar quantities in other countries.

"The reading of these papers, with the discussions upon them, occupied more than five hours. The international principle was opposed as chimerical and impracticable by Mr. W. Brown, Lieut.-General Sir Charles Pasley, and Mr. R. R. Moore. It was ably and strenuously defended by Mr. Theodore Rathbone and by Professor Hennessy.

"Remarks were made on the great value of the preliminary report presented by the Decimal Coinage Commission, of which Lord Monteagle is chairman, and especially on the importance of the information obtained from France, Belgium, Switzerland, the kingdom of Sardinia, and other foreign countries.

"Mr. Tite, M.P. for Bath, stated, as the result of his experience in various works which he had executed on the Continent, that the practical advantages of the metrical system are great almost beyond conception.

"Mr. M'Cann, M.P. for Drogheda, announced his intention of bringing in a bill in the next session of parliament for the abolition of dry measure.

"Mr. Philip Rathbone, local secretary, stated that he was in the habit of changing English accounts into the monetary scale of nations using the decimal system, and that this process, by enabling him to use logarithms, not only effected a saving of three-fourths of the time in computation, but afforded the best security against error.

"Notwithstanding the opposition of sentiment between the advocates of the pound and mil scheme and those who recommended an international system comprising measures, weights, and coins, there was only one feeling of admiration and gratitude towards the officers of the Association for Promoting Social Science, which had so liberally afforded the opportunity for discussion."

ROCK SALT IN PRUSSIA.

A correspondent of the *Daily News*, dating from Stettin, states that a discovery of the utmost importance for the trade of Prussia and the countries on the Baltic generally, has lately been made at a place called Strassfurt, near that city, consisting of an inexhaustible bed of pure rock salt. It is now some months since vague and uncertain reports of the discovery were circulated there, but they were at first discredited, on the ground that the geological features of Pomerania, being of alluvial and diluvial formation, were not of a nature to cover a large deposit of salt, although it was known that there are, in many parts of the province, saline springs which are used by the government for the artificial manufacture of salt.

The fact of the discovery is, however, now stated to be well authenticated. A small cargo has been sent this summer to Scotland, to be used in salting herrings, and the quality is said to be even superior to the Liverpool rock salt. As these salt beds are of very considerable extent, and from their proximity to the sea, the produce can be raised and shipped at a very low figure, the discovery is likely to bring about an important revolution in the salt trade, which, in Prussia, is a government monopoly; indeed, the Minister for Commerce has, in consequence of the discovery, ordered the saline works at Colberg and Cösen to be discontinued, it being found impossible to compete profitably, by any artificial means, with this prolific natural store. Government has fixed the price for the present at six silbergroschen per centner (equal to about 11s. sterling per ton), delivered free on board at Strassfurt, which is about the shipping price at Liverpool. It is, however, thought probable that a great reduction will take place, as the actual cost of production only amounts to one-fourth of the above figure.

The writer adds:—"Under these circumstances the large importations of salt annually received from England will, of course, altogether cease, and the Strassfurt rock salt will be able, from the extreme cheapness of its production, to compete successfully with Liverpool for supplying Russia and the other Baltic States with this necessary article, thus creating a new and lucrative branch of commerce for the merchants of Prussia. An unlimited supply of cheap salt will also have a corresponding favourable effect on the development and increase of many chemical articles manufactured in Prussia, in which salt is the principal ingredient. The falling-off in our imports of salt, soda, &c., will, however, be more than compensated by the increase of exports in this town which cannot fail to take place, and thus tend to restore the just equilibrium between our imports and exports, the former having, for several years past, considerably predominated—so much so, that a large part of the vessels bringing goods to Stettin are unable to find return freights, and are therefore compelled to sail in ballast, which tends to materially raise the inward freights on cargoes bound for this port."

Home Correspondence.

SHIPPING REGISTRATION, TONNAGE, AND ENGINE-POWER.

Sir,—The *Journal of the Society of Arts* having been liberally thrown open to public discussion on the deficiencies and absurdities of our present system of Shipping Registration and Tonnage and Engine-power admeasurement and record, as exemplified by the papers, "Steamship Capability," "Tonnage Registration," and "Mercantile Steam Transport Economy," published in the *Society of Arts Journal* for the 18th May, 1855, 18th January, 1856, 15th and 22nd August, 1856, and 28th August, 1857, I now request the favour of your giving insertion to the inclosed excerpts from City articles of the *Times* for the 25th and 30th Oct., as a practical confirmation of the anomalies to which I have endeavoured to direct public attention by the papers above referred to.

I am, &c.,
CHARLES ATHERTON.

Woolwich Dockyard, 27th Oct., 1858.

[Extracts referred to.]

The following is the explanation furnished regarding the discrepancies between the alleged and actual tonnage and horse-power of the vessels named in the prospectus of the new Atlantic Steam Company from Galway. The registered capacity is rarely heeded, and it is now a general custom for each shipbroker to suit more or less his own fancy as to the limits within which he will confine his descriptions. An immediate and authoritative reform should be brought about:—

"8, Philpot-lane, London, Oct. 23.

"Sir,—Pressure of business has hitherto prevented us from noticing an extract from the *Liverpool Courier* of the 9th inst., and recently commented on by you, which seems to have been widely circulated in this city with an object which is very apparent. As the advertising of the steam-ships of the Atlantic Royal Mail Steam Navigation Company rests with us, as the brokers to the company, we beg to state in explanation, that in advertising the burden tonnage of the ships and effective power of their engines, we merely followed the custom generally prevailing among brokers, and the only omission we can admit is that of the words 'burden' and 'effective,' which henceforth you will see in our advertisements in the columns of your paper. We enclose advertisement slips cut out of your paper of this date and those of your contemporaries, from which you will see the custom above alluded to is general, and we may add, that in more than one of our ships we have considerably understated both burden and effective power.

"Every one acquainted with shipping is aware that the Customs' admeasurement tonnage and the Admiralty horse-power are merely nominal, and not at all indicative of the actual burden of ship or horse-power of engines.

"For the information of the curious, we refer them to the last Merchant Shipping Act, wherein they will find the key to the relative proportion between register and burden tonnage, and from which they will see our advertisements are not overstated.

"We are, Sir, your obedient servants,
"BAKE, ADAMS, and Co."

The following relates to the controversy which has arisen out of the recent advertisements of the Galway Atlantic Steam Company, as to the practice of the shiprokers of London and Liverpool in describing the tonbage and power of vessels. It is evident that much laxity has prevailed, and that the time has arrived to put a stop to it. There could be no objection to brokers giving their own estimates, providing the official figures are also stated:—

"London, Oct. 28.

"Sir,—Will you allow me to point out two or three things in reference to the controversy respecting the advertisements of the Galway line of steamers? Considering the locality whence the attack made on the new company was commenced it is not very difficult to understand the motive. For years past I have advocated schemes of which the Galway undertaking forms a part, and to the complete realization of which I believe that it will ultimately lead; I therefore naturally entertain a just indignation when I see that which I consider contrary to truth and fair-play put in requisition to injure the Galway line in public estimation. This, I am persuaded, you will never for a moment countenance, and I address to you these few lines, either for publication or not as you may think proper. You inserted a letter signed 'Veritas' in your City Article of to-day, the writer of which says:—

"'I enclose you the advertisement of every Transatlantic steam line advertised in the Liverpool newspapers, and the Galway line is the only one stating an imaginary tonnage.'

"Now I do not know what the Liverpool papers advertise, but I beg to refer you to *The Times* of this date for the advertisements of Liverpool steamships, There you will find at the bottom of column IV., page 1, of the supplement, the *Great Britain* (of a Liverpool line, and belonging to Messrs. Gibbs and Co.) advertised as 3,500 tons register. I turned to the *Steam Shipping Register* this afternoon, and found her there registered as 1,811 tons. The *Eagle*, which appears directly after, is advertised as 2,500 tons, and I find in Lloyds' book that she is registered 1,020 tons.

"Again, turn to the White Star line and Black Ball lines. I find certain vessels belonging to these advertised as of 5,000 tons burden. It is true that the registered tonnage of these lines is given, which is by no means generally the case. But their advertisers, in estimating their burden in proportion to their registered tonnage, have, I think, somewhat exceeded Messrs. Bake, Adams, and Co.'s calculation. All that Messrs. Bake, Adams, and Co. can be accused of is, that they have left out their register column and given the burden of their vessels alone. That this is by no means a singular proceeding is sufficiently proved by *The Times*' advertising columns of to-day. "I am, &c.,
"SCRUTATOR."

Proceedings of Institutions.

Warminster Athenæum.—The opening of the new buildings recently erected by the members of the Warminster Athenæum, was inaugurated on Thursday, the 28th ult. A public meeting was held in the lecture-room, at which the Marquis of Bath presided, supported by the Right Hon. Sidney Herbert, M.P., Lord H. Thynne, the Hon. and Rev. S. Best, Mr. E. Baines, of Leeds, president of the Yorkshire Union of Mechanics' Institutes, the Rev. A. Fane, vicar of Warminster, and a large number of the gentry and clergy of the town and neighbourhood. The Marquis of **Bath** opened the proceedings in a brief speech, in which he pointed out the advantages which the town of Warminster would receive from the establishment of the institution.—Mr. **Warren**, the secretary, then, at the request of the chairman, read a statement of the financial position of the Institution, after which the Right Hon. S. **Herbert**, M.P., rose to move the first resolution. He began by contrasting the mode in which such Institutions as this were established in France, where the support and patronage of the Government were considered essential to success, with the more independent system adopted in England. With reference to the advantages of such Institutions, he confessed he was at a loss what to say, for during the last six weeks we had had this subject put before us in every possible light, and argued in every possible manner by the most illustrious and able men which the country had produced in the present day. He thought, however, that the discussions which had lately taken place, had enabled us to get at a far more correct view of what the intentions and objects of these Institutions really were, and what they were likely to accomplish, than we possessed before. He recollected at one time, that the opinion very much taken up was, that these Institutions, by offering to all the means of studying abstruse science, would have the advantage of creating, at any rate of increasing, the number of eminent men in literature and science—that they would, in point of fact, be the nurseries of men like Hugh Miller, Stephenson, or Dr. Livingstone—men who struggled through every disadvantage in their determination to encounter and conquer learning. For his part, he did not believe that Institutions of this kind had any such effect, and he did not think it right that they should have any such effect. Men ought to meet here for purposes of intellectual recreation, and not necessarily for laborious study. Stephenson, Hugh Miller, and such men did not want opportunities given to them, they made them. They were not the creatures but the authors of opportunity. The fact was that when people made rules for others, they took a very high standard. They were very virtuous when making regulations to affect the conduct of other people, and many of these societies had begun by purging their libraries of books of amusement. He was not against offering abstruse books to those whose tastes would lead them to study science, but let them not let their library be restricted to such books. Really good novels were, in his opinion, a great school of human nature, and such works were not out of place in the library of a literary institution. Then, again, the reading of newspapers in these Institutions was equally justifiable. They were, in fact, contemporary history, besides giving us most admirable discussions upon all the questions of the day. It was true that at present newspaper writers were anonymous, and his belief was that, for the mission of public instruction, that was a great disadvantage, as it put on a par, in point of weight and authority, the most scrupulous and the most unscrupulous writer—the most exact and the most inexact. He had stated his views on this point, because it was to the press that we must look for the formation of the great mass of public opinion on political and social questions, and it was of importance to watch with the greatest care any defects capable of remedy which diminished the good influence the press exercised. The diffusion of information had contributed to the present comparative absence of party spirit in the country. The mass of the people were now as intelligent as those they returned to represent them, and the result was that, judging for themselves, they found some good on one side, some on another, and they would not yield themselves blindly to the lead of any one man or party in the State. The proposed extension of the suffrage would, if carried, produce an enormous extension of that jury which was to decide in a calm reasoning manner on the great questions of the day. Learning, then, must no longer be a monopoly of those who had leisure and wealth to obtain it, but it must go further, and for such a purpose institutions such as this were invaluable. In conclusion, he trusted that they would agree with him in accepting with warmth and cordiality the resolution which he had then the honour to read to them, "That the Warminster Athenæum, being an institution calculated to advance the moral, social, and intellectual progress of the town and neighbourhood, the cordial thanks of the public are due to its promoters."—The Hon. and Rev. S. BEST, in seconding the resolution, said he dissented from some of the opinions which Mr. Sidney Herbert had expressed. He took a somewhat sterner, and, perhaps, not so agreeable, a view of the duties of an Institution like this. He admitted the social advantages to be derived from reading good novels or newspapers, but other matters were to be attended to in training the mind in order to enable it to distinguish the force of truth. The great object of Institutions such as this was, in his opinion, to take the young when they left school, to educate them practically, and continue their education either by means of mutual instruction or by means of appointed masters. The resolution having been unanimously agreed to,—Mr. EDWARD BAINES proposed the next resolution—"That this Institution recommends itself to the support of the friends of education, as designed to promote the self-improvement of the young, and the general diffusion of knowledge apart from religious and political opinion." He agreed most cordially with what had been said by the right hon. gentleman in regard to the desirableness of not forbidding in these Institutions relaxation and intellectual amusement. Very many years ago he had dissented from the view taken of Mechanics' Institutes by their founders, Dr. Birkbeck and Lord Brougham, that they should be entirely devoted to scientific study, and he believed experience had since proved that he was right. At the same time he thought there was something higher to be gained from Mechanics' Institutions than mere intellectual amusement. He, therefore looked with much satisfaction upon the efforts which had been made in the town of Warminster to extend their institution and render it more useful.—The Rev. A. FANE seconded the resolution, which was unanimously agreed to. Several other addresses having been delivered, the proceedings terminated with a vote of thanks to the Chairman. After the meeting a dinner took place at the Town Hall, at which the Marquis of Bath presided, and the festivities were concluded by a *soirée* in the evening.

MEETINGS FOR THE ENSUING WEEK.

MON. ......Geographical, at Burlington House, 8½. I. Mr. R. F. Thomson and Lord Schomberg H. Kerr, "Journey through the Mountainous Districts North of the Elbury, and Ascent of Demavend, in Persia. II. Mr. A. C. Gregory, "Journey from Moreton Bay to Adelaide in search of Leichhardt." III. Mr. F. Gregory, "Exploration of the Murchison, Lyons, and Gascoyne Rivers in Western Australia."

TUES. ......Syro-Egyptian, 7½. Mr. W. F. Ainsworth, "On Ancient and Modern Antioch."

Civil Engineers, 8. Mr. J. S. Valentine, M. Inst. C.E., "Description of the Lisbon and Santarem Railway."

Med. and Chirurg., 8½.

Zoological, 9.

PATENT LAW AMENDMENT ACT.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[*From Gazette, Oct.* 29, 1858.]

Dated 22*nd September*, 1858.

2132. C. W. Harrison, Woolwich—Imp. in filters for purifying air and liquids.

Dated 11*th October*, 1858.

2260. R. Cowen, jun., Nottingham—Imp. in dressing lace or other fabrics made of silk, cotton, or other material, and in apparatus employed therein.

Dated 12*th October*, 1858.

2269. J. F. Swinburn, Birmingham—Imp. in fire-arms.

2271. T. C. Shaw, and F. H. Cooper, Hanley, Staffordshire—A new or improved construction and mode of working engines by the agency of air or gases in conjunction with electricity for obtaining or producing motive power.

2273. W. Smith, Edinburgh—Imp. in transferring drawings or delineations in lithographic and zincographic processes.

2275. J. A. Gasse, Paris—Imp. in railway breaks and in apparatus for working the same.

Dated 13*th October*, 1858.

2278. J. Parkins, 1, Hanway-street, Oxford-street—Imp. in securing envelopes, and in fastenings to be used therein.

2279. H. Parker, Sledmere Castle, Yorkshire—An improved apparatus for the cultivation of land, and other agricultural operations.

2280. R Ridley, Low Wortley, Yorkshire—Imp. in safety cages for mine shafts.
2281. W. H. Treacher, Blackfriars-road—Imp. in respirators.
2282. A. G. Bradby, Reading, Berkshire—An imp in connection with collars and ties, or other like articles of dress.
2283. A. Benda, 79, Basinghall-street—Imp. in the manufacture of models of the human and other figures to be used as toys, for tuition, and for other purposes. (A com.)
2284. J. Braby and J. Braby, jun., Bridge House-place, Newington Causeway, Southwark—Imp. in wheels and wheeled carriages to be propelled by steam, horse, or other power, and in apparatus for retarding the same.

Dated 14th October, 1858.

2285. J. C. Ollerenshaw, Manchester—An imp. in "cotton gins." (A com.)
2286. H, Liddle and J. Booth, Tonge, near Middleton, Lancashire—Certain imp. in machinery or apparatus for polishing and finishing yarns or threads.
2287. L. Cowell, Adelphi—Imp. in apparel affording the means for preserving life at sea, and to prevent accidents to persons casually immersed in water.
2289. A. Gordon, Little Fife-house, Whitehall—Imp. for manufacturing cast iron, steel, and wrought iron. (A com.)
2291. T. Ingram, Bradford, Yorkshire—Imp. in means or apparatus for signalling between the parts of a train of carriages.
2293. S. Perkes, Clapham—Imp. in machinery for extracting oil from the cocoa nut and other vegetable matters.
2294. H. Martin, Old Kent-road—Imp. in separating starch from gluten in apparatbs used therein, and also in preparing cement from gluten.
2295. G. Baxter, Northampton-square—Imp. in colouring photographic pictures.
2296. T. Archer, jun., Dunston, near Gateshead—Imp. in apparatus for preventing explosions of steam boilers.
2297. S. Diggle, Radcliffe, Lancashire—Imp. in looms for weaving.
2298. W. E. Newton, 66, Chancery-lane—An improved construction of cabin or state room for steam boats and other vessels. (A com.)
2299. J. Lomas, Manchester—Imp. in the production of ornamental fabrics for ladies' dresses.

Dated 15th October, 1858.

2300. R. R. Jackson, Blackburn, Lancashire—Certain imp. in machinery or apparatus for sizeing yarn.
2301. W. Bacon, Prestwich, Lancashire—Imp. in the mode of constructing valves, valve cocks, gates, and stopcocks, which may be used in steam engineering, and for other purposes. (A com.)
2302. G. Davies, 1, Serle-street, Lincoln's-inn—Imp. in the manufacture of gloves, and in the apparatus employed therein. (A com.)
2303. T. Moore, Sheffield—Imp. in refrigerators.
2304. S. T. Clarke, 30, Kildare-terrace, Westbourne-park—A mode of crossing bankers' cheques and drafts.
2305. J. Wainwright, Birkenhead—Imp in respirators.
2306. G. T. Bousfield, Loughborough-park, Brixton—Imp. in machinery for cutting the threads of wood screws. (A com.)
2307. G. F. Wilson, Belmont, Vauxhall—Imp. in preparing compounds containing sulphur for preventing and destroying blight, mildew, and insects.

Dated 16th October, 1858.

2308. L. Marcus, Algiers—An improved reaping machine.
2309. F. J. Coulon and S. G. Giraud, 2, Rue Sainte-Appoline, Paris—Imp. in the process of ornamenting skin and leather.
2310. T. W. G. Treeby, 1, Westbourn-terrace Villas, Paddington—An imp. in breech-loading fire-arms and cannon.
2311. H. Francis, 456, West Strand, Westminster—Machinery for making the springs of surgical trusses.
2313. J. Hick, W. Hargreaves, and R. Harwood, Bolton-le-Moors, Lancashire—Imp. in governors or regulators for prime movers.
2814. P. Jensen, Mount-gardens, Westminster-road, Lambeth—An improved apparatus for governing or regulating the speed of marine engines.
2315. A. Robertson, Lounsdale, Renfrew, N.B.—Imp. in applying starch and similar matters.
2316. A. Dunn, Dalston-terrace East—An imp. in preparing marking compounds to be used on linen and other fabrics.
2317. B. Nickels, Mitcham, Surrey—Imp. in electric telegraphs.

Dated 18th October, 1858.

2318. W. Clay, Ellesmore, Shropshire—Imp. in combined thrashing and dressing machines.
2319. J. A. Mason, Wirksworth, Derbyshire—Imp. in washing machines and apparatus for wringing and mangling.
2320. W. A. F. Powell, Bristol—Imp. in stopping or closing jars and bottles.
2321. C. West, 15, Mornington street, Camberwell New-road—Imp. in the mode of insulating and covering wire.
2322. R. Tidman, Jermyn-street, St. James's—Imp. in machinery or apparatus for paying out and for raising electric telegraph cables.
2323. R. A. Brooman, 166, Fleet-street—Imp. in the manufacture of small chains and links for the same (A com.)
2324. K. H. Cornish, 17, Chapel-street East, May Fair—A new mode of advertising.
2325. W. E. Newton, 66, Chancery-lane—Imp. in apparatus for lighting gas and other lamps. (A com.)
2326. A. W. Drayson, Capt. R.A., Plumstead, Kent, and C. R. Binney, Capt. R.E., Woolwich—Imp. in submarine telegraphic cables.
2327. J. Smith, Newport, Salop—Imp. in rough-shoeing beasts of draught and burden.

Dated 19th October, 1858.

2329. J. Whitworth, Manchester—Imp. in guns, gun-carriages, and ammunition.
2331. J. Owen and H. Duckworth, Blackburn, Lancashire—Imp. in looms.
2333. J. Richmond, 21, Carlisle-terrace, Fairfield-road, Bow—The construction of valves applicable especially to water motors, and other instruments for measuring fluids, and all hydraulic purposes.
2335. W. E. Newton, 66, Chancery-lane—Imp. in the hanging and arranging of cylindrical conical or spiral steel railroad springs, for railway carriages. (A com.)
2337. R. A. Brooman, 166, Fleet street—Imp. in propelling vessels. (A com.)
3339. W. Riddle, 1, Westbourne terrace, Barnsbury-park—Imp. in packing or forming merchandise or goods into bales.

INVENTION WITH COMPLETE SPECIFICATION FILED.

2352. E. B. Horn, Massachusetts, U.S.—An improved compensation apparatus for a hair-spring balance for a watch or timepiece.—21st October, 1858.

WEEKLY LIST OF PATENTS SEALED.

[*From Gazette, Nov.* 2, 1858.]

November 1st.

775. P. Brun.
976. R. Illingworth.
984. E. S. Trower.
989. J. Swain and M. Swain.
996. C. D. Archibald.
1000. J. Lawson and T. Robinson.
1014. W. Clark.
1018. J. Bunnett and J. G. Bunnett.
1019. C. J. Carr.
1029. R. Best.
1032. W. Clark.
1036. A. V. Newton.
1043. I. L. Bell.
1054. W. Pare.
1058. R. Halliwell.
1060. J. M. Gilbert.
1070. J. Sharples.
1082. H. Hyde.
1132. M. Henry.
1172. W. E. Newton.
1187. J. Stuart.
1200. T. Dunn and W. Irlam.
1204. J. F. Lackersteen.
1218. J. Schloss.
1300. E. T. Hughes.
1332. G. W. Hart.
1428. W. E. Newton.
1609. C. S. Putnam.
1702. W. A. Gilbee.
1735. J. Houston.
1836. G Metzler and J. Waddell.
1894. H. Hood.
1934. J. Coates.
2038. J. G. Newberry.

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

[*From Gazette, Oct.* 29, 1858.]

October 25th.

2408. G. Riley.

October 26th.

2427. H. E. Drayson.
2429. T. J. Swinburne.
2430. T. S. Grimwade.

October 27th.

2451. R. Cook.

[*From Gazette, Nov.* 2, 1858.]

October 28th.

2470. G. Collier.

October 29th.

2419. W. Naylor.

October 30th.

2437. G. Milner.
2439. W. Taylor.
2442. A. E. L. Bellford.
2452. W. Staufen.

WEEKLY LIST OF DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

No. in the Register.	Date of Registration.	Title.	Proprietors' Name.	Address.
4123	Oct. 14.	Stay Fastener	J. McLintock	Westgate House, Barnsley.
4124	„ 15.	The Horizontal Dome Inkstand	D. W. Lovell & A. Wilson	9, Wine Office-court, Fleet-street.
4125	„ 15.	Revolving Panoramic Stereoscope	J. Cramb	52, Magdalen-yard-road, Dundee.
4126	„ 20.	Improved Bench Vice	Easterbrook & Allcard	Albert Works, Sheffield.
4127	„ 21.	Sprig for Binding Boot and Shoe Heels	H. E. B. Farmer	Northampton.
4128	„ 25.	Brown's Improved Convex Washing Board	C. Brown	Market-place, Leicester.
4129	Nov. 2.	Cinder Sifter	D. Jones	Dartmouth-street, Birmingham.
4130	„ 3.	Hinge	J. Sadler and T. Davis	Birmingham.